CLAIMS

1. (Canceled)

2. (Previously presented)Apparatus for joining a plurality of pieces of pipe, including:

a first piece of pipe and a second piece of pipe each having a similar size and shape sidewall corrugation pattern along their lengths;

a first female engagement structure formed from the sidewall corrugation pattern of the first piece of pipe; and

a male engagement structure formed from the sidewall corrugation pattern of the second piece of pipe,

the first female structure being temporarily deformed for receiving the male structure, the temporary deformation being both sufficiently large to permit the insertion of the male structure but also sufficiently small to ensure that material memory returns the first female structure toward its original non-deformed configuration with sufficient compressive force to grip the male structure and prevent its inadvertent removal from engagement with the first female structure, and

wherein the female structure includes an inwardly projecting engagement element at its leading edge acting between said first and said second pieces of pipe to increase the force necessary to disengage said pipe pieces from each other following assembly.

3. (Previously presented) The apparatus of Claim 2, in which said pipe sidewall corrugation pattern of each piece of pipe includes a corrugated exterior surface and an internal non-corrugated liner element.

4. (Canceled)

5. (Previously presented) The apparatus of Claim 2, in which said first piece of pipe includes a second female engagement structure remote from said first female structure, said second female structure also being temporarily deformed to function as a female structure for receiving a corresponding non-deformed end of a third piece of pipe, said third piece of pipe having a sidewall corrugation pattern along its length that is similar in size and shape to the sidewall corrugation pattern of said first and second pieces of pipe.

6. (Previously presented) The apparatus of Claim 2, including a sealing element positioned between confronting surfaces of said first and second pieces of pipe to help provide a watertight seal therebetween.

7. (Previously presented) The apparatus of Claim 2, including an adhesive material acting between confronting surfaces of said first and second pieces of pipe to bond said first and second pieces to each other upon insertion of said second piece into said female structure of said first piece of pipe.

8. (Withdrawn) A stretching tool for use in connection with an apparatus for joining a plurality of pieces of pipe, the apparatus including:

a first piece of pipe and a second piece of pipe each having a similar size and shape sidewall corrugation pattern along their lengths;

a first female engagement structure formed from the sidewall corrugation pattern of the first piece of pipe; and

a male engagement structure formed from the sidewall corrugation pattern of the second piece of pipe,

the first female structure being temporarily deformed for receiving the male structure, the temporary deformation being both sufficiently large to permit the insertion of the male structure but also sufficiently small to ensure that material memory returns the first female structure toward its original non-deformed configuration with sufficient compressive force to grip the male structure and prevent its inadvertent removal from engagement with the first female structure,

the stretching tool including a channel into which an edge of said first piece of pipe can be inserted in its originally fabricated shape, said tool including means to temporarily deform said edge of said first piece of pipe.

9. (Withdrawn) The tool of Claim 8, including a plurality of rollers positionable along the inside and outside surfaces of said edge of said first piece of pipe, and further including means for exerting force to act between said rollers and said edge to deform said edge from its originally fabricated shape to eventually form a first female end.

10. (Withdrawn) A temporary stretch-holding device for use in connection with an apparatus for joining a plurality of pieces of pipe, the apparatus including:

a first piece of pipe and a second piece of pipe each having a similar size and shape sidewall corrugation pattern along their lengths;

a first female engagement structure formed from the sidewall corrugation pattern of the first piece of pipe; and

a male engagement structure formed from the sidewall corrugation pattern of the second piece of pipe,

the first female structure being temporarily deformed for receiving the male structure, the temporary deformation being both sufficiently large to permit the insertion of the male structure

but also sufficiently small to ensure that material memory returns the first female structure toward its original non-deformed configuration with sufficient compressive force to grip the male structure and prevent its inadvertent removal from engagement with the first female structure,

the temporary stretch-holding device including a first portion for temporary insertion into said temporarily deformed female structure of said first pipe piece, said first portion being sized and configured to retain a sufficient degree of deformation of said temporarily deformed female structure so that, upon removal of said temporary stretch-holding device from said temporarily deformed female structure, a non-deformed end of said second piece of pipe may be inserted into engagement with said female structure.

11. (Withdrawn) The device of Claim 10, in which said device is fabricated with a sidewall corrugation pattern that is similar in size and shape to the sidewall corrugation pattern of said first piece of pipe, and further including a second portion to assist in desired removal of said device from said temporary insertion into said deformed female structure, said first portion includes a circumferential gap to allow a degree of compression of said corrugation pattern to facilitate the desired insertion into and removal from said female structure.

12. (Withdrawn) The device of Claim 10, in which said device is fabricated with a sidewall corrugation pattern that is similar in size and shape to the sidewall corrugation pattern of said first piece of pipe, and further including a second portion to assist in desired removal of said device from said temporary insertion into said deformed female structure, said second portion includes an axially lengthwise cut to allow a degree of compression of said device to facilitate the desired insertion into and removal from said female structure.

13. (Withdrawn) The device of Claim 10, further including a second portion having a strap element upon which force can be exerted to effect the desired removal of said temporary stretch-holding device from said deformed female structure.

14. (Withdrawn) The device of Claim 10, further including a second-portion having a grippable area upon which force can be exerted to effect the desired removal of said temporary stretch-holding device from said deformed female structure.

15. (Withdrawn) The device of Claim 10, wherein said device is sized and configured for use as a cover over a pipe joint formed with said female structure after said device is removed from said temporary engagement within said female structure.

16. (Withdrawn) A method of assembling a plurality of pipe pieces together, including the steps of:

providing a plurality of pipe pieces fabricated with a substantially uniform cross-sectional sidewall pattern along their length;

stretching a first end of at least one of said pipe pieces sufficiently to permit the insertion of a non-stretched end of another piece of said pipe without stretching said first end so far as to destroy its material memory;

inserting said non-stretched end of said another piece of said pipe into said stretched first end; and

allowing said material memory of said stretched end to return said first end toward its original non-stretched configuration with sufficient compressive force to grip said non-stretched end of said another piece of said pipe and prevent its inadvertent removal from engagement with said stretched end.

17. (Withdrawn) The method of Claim 16, in which said step of stretching a first end is performed by a tool having a channel into which an edge of said first end can be inserted in its originally fabricated shape, said tool including means to temporarily stretch said edge to a configuration capable of receiving said non-stretched end of said another piece of said pipe.

18. (Withdrawn) The method of Claim 16, including the steps of:

inserting into said temporarily stretched first end a device for holding said stretch prior to said step of inserting said non-stretched end of said another piece of said pipe into said stretched first end, said device being sized and configured to retain a sufficient degree of said stretch of said first end so that, upon said removal of said device from said stretched end, said non-stretched end of said another piece of said pipe may be inserted into engagement with said stretched end;

leaving said device in its temporary insertion position for a discrete period of time to facilitate transport, handling, or other processing of said pipe; and

removing said device from said stretched end prior to insertion of said non-stretched end of said another pipe.

19–26. (Canceled)

27. (Previously presented) The apparatus of Claim 2, further including a stretching tool having a channel into which an edge of said first piece of pipe can be inserted in its originally fabricated shape, said tool including means to temporarily deform said edge of said first piece of pipe.

28. (Previously presented) The apparatus of Claim 27, including a plurality of rollers positionable along the inside and outside surfaces of said edge of said first piece of pipe, and

further including means for exerting force to act between said rollers and said edge to deform said edge from its originally fabricated shape to eventually form a first female end.

29. (Previously presented) The apparatus of Claim 2, further including a temporary stretch-holding device having a first portion for temporary insertion into said temporarily deformed female structure of said first pipe piece, said first portion being sized and configured to retain a sufficient degree of deformation of said temporarily deformed female structure so that, upon removal of said temporary stretch-holding device from said temporarily deformed female structure, a non-deformed end of said second piece of pipe may be inserted into engagement with said female structure.

30. (Previously presented) The apparatus of Claim 29, in which said temporary stretch-holding device is fabricated with a sidewall corrugation pattern that is similar in size and shape to the sidewall corrugation pattern of said first piece of pipe, and further including a second portion to assist in desired removal of said device from said temporary insertion into said deformed female structure, said first portion includes a circumferential gap to allow a degree of compression of said corrugation pattern to facilitate the desired insertion into and removal from said female structure.

31. (Previously presented) The apparatus of Claim 29, in which said temporary stretch-holding device is fabricated with a sidewall corrugation pattern that is similar in size and shape to the sidewall corrugation pattern of said first piece of pipe, and further including a second portion to assist in desired removal of said device from said temporary insertion into said deformed female structure, said second portion includes an axially lengthwise cut to allow a

degree of compression of said temporary stretch-holding device to facilitate the desired insertion into and removal from said female structure.

32. (Previously presented) The apparatus of Claim 29, further including a second portion having a strap element upon which force can be exerted to effect the desired removal of said temporary stretch-holding device from said deformed female structure.

33. (Previously presented) The apparatus of Claim 29, further including a second portion having a grippable area upon which force can be exerted to effect the desired removal of said temporary stretch-holding device from said deformed female structure.

34. (Previously presented) The apparatus of Claim 29, wherein said temporary stretch-holding device is sized and configured for use as a cover over a pipe joint formed with said female structure after said device is removed from said temporary engagement within said female structure.

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